

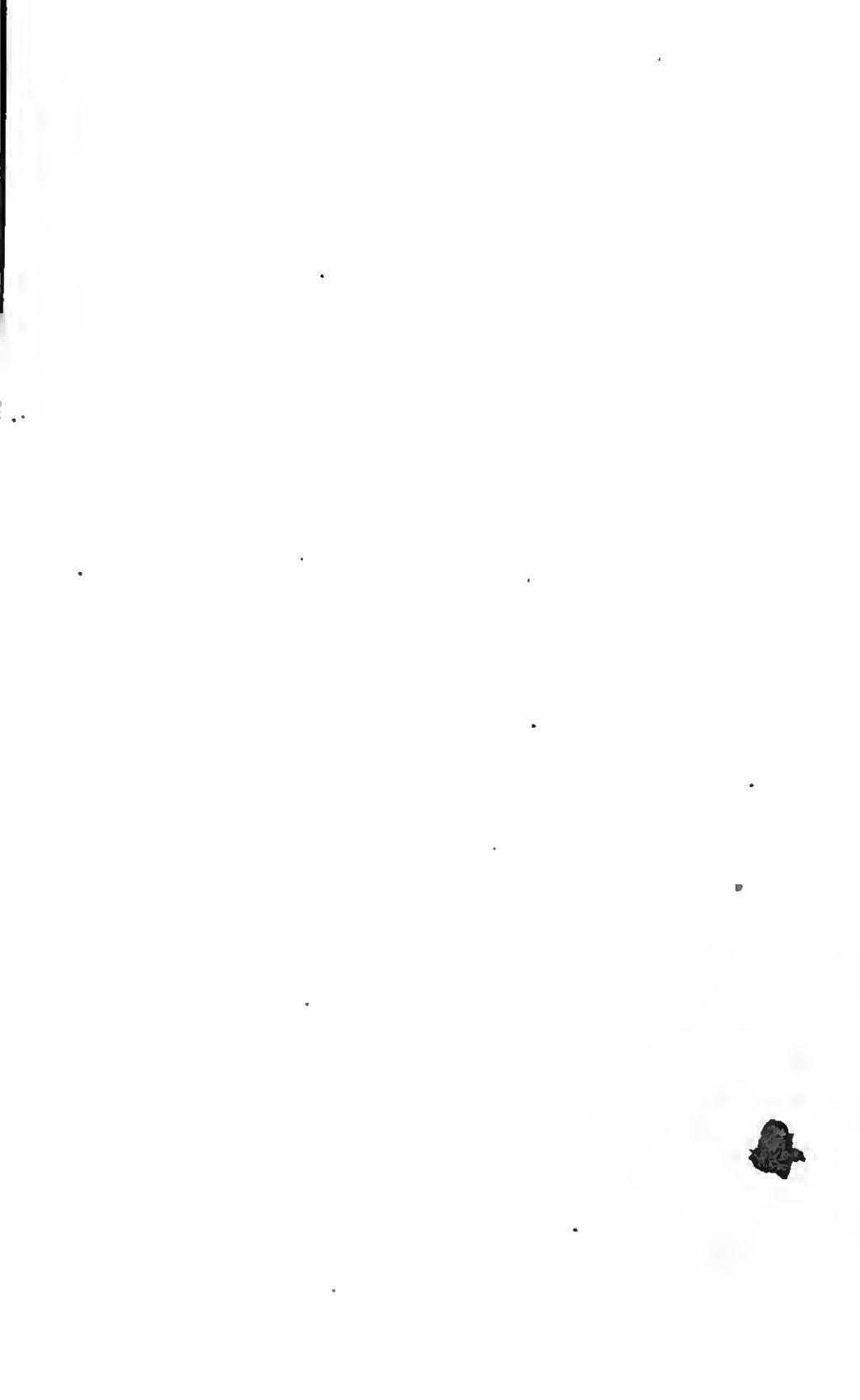
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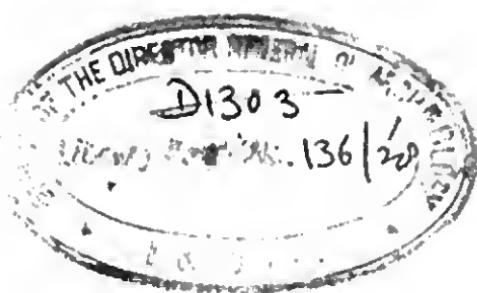
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INDIAN ARCHITECTURAL TERMS

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ACHARYA, P. K., *Indian Architecture According to the Mānasdra-śilpāśatra*, pp. iv, 268, index: *A Dictionary of Hindu Architecture*, pp. xx, 861, index. Both printed in Allahābād, published by the OXFORD UNIVERSITY PRESS, and without date (1927 or 1928).

These two volumes, the latter especially, are monumental works, and will be indispensable to every student of Indian architecture and *realia*. Only those who work along these lines will realise the great labour involved in the preparation of such books, especially when they are almost the first of their kind; the serious study of the Indian *śilpa-śāstras* has been too long delayed, and a warm welcome may be extended to the Professor's undertaking. The author, nevertheless, has neglected a good deal of work that has been done in this field; surprising omissions in the references, for example, are Rao, *Tālamāna*, Jouveau-Dubreuil, *Archéologie du Sud de l'Inde*, and texts such as the *Viṣṇudharmottara* and *Silparatna*. Moreover the author is too little, if at all, acquainted with the actual buildings; otherwise, indeed, he could not have remarked that the buildings and sculptures of the time when the text of the *Mānasātra* was composed "have all been destroyed," overlooking the fact that sculptures and buildings of this and earlier periods survive in thousands, and that a very great deal of exact information about the early architecture can be gathered from the Sunga, Kuśāna, and Āndhra reliefs. I have myself in preparation a work based on this early material, which can and necessarily will be very fully illustrated. Jouveau-Dubreuil had the immense advantage of a thorough knowledge of the actual architecture, and of personal contact with living *sthapatis* able to explain the meaning of technical terms; without these qualifications Professor Acharya has attempted an almost impossible task, for mere book-learning, however profound, is insufficient.

The following notes, however, are meant to be a further contribution to the subject and an acknowledgment of the value of what the Professor has already accomplished, rather than further criticism.

As of most general interest I would call attention to the items *Ābhāsa*, *Candra-sīla*, *Hasti-nakha*, *Kuṭṭgāra*, *Likh*, *Liṅga*, *Nārāca*, *Tulā*. I should also like to emphasize the fact that a study of the early use of the words which later appear as established technical terms in the *Śilpa-śāstras* is of great value for the study of architectural history. There is still very much to be accomplished in this direction.

Ābhāsa: together with *ardha-citra* and *citrābhāsa* are completely misunderstood. Neither of these is a material, but as explained by Śrikumāra, *Silparatna*, Ch. 64, vv. 2-6 (see my translation in the *Sir Ashutosh Mukerjee Memorial Volume*), and by Rao, *Elements of Hindu Iconography*, I, p. 52, citing the *Suprabhedaśāma*, a method. Both the *Mūnasdra* and *Suprabhedaśāma* as cited by the Professor himself are perfectly clear on the point; as the matter is important, I quote the latter:

Sarvāvayava-saṁpūrṇam dr̥ṣyam ito citram ucyate

Ardhāvayava-saṁdr̥ṣyam ardha-citram caiva ca (sic).

Pate bhittau ca yo(al) likhyam¹ citrābhāsam ihocaye (sic).

The mistake about *ābhāsa* has led to the extraordinary view (Dict. p. 65, 1. 3) that *ālekhyā* is also a material. *Citra*, in fact is divided into *citra*, *ardha-citra*, and *citrābhāsa*, respectively sculpture in the round, reliefs, and painting. In *Indian Architecture*, p. 70, in the same connection *saṁvāṅgadr̥ṣyamāna*, rendered "quite transparent," really means "in which all the parts of the body are visible." Of course, there are many cases where *citra* by itself is used to mean painting, but some of these need critical examination; for example *citrāṇī maydalāṇī* of *Cullavagga*, V, 9, 2 does not mean "painted circular linings," as rendered in *S. B. E.*, XX, but simply "carved bowl-rests."

Ādhāra: add the meaning, "reservoir," *Arthaśāstra*, III. 8 (Meyer).

Ādhigṛhāna, plinth: Mukherji, *Report on the Antiquities of the District of Lalitpur*, 1899, describes and illustrates the various parts and mouldings. A few diagrams of this kind would have greatly enhanced the value of the *Dictionary*.

Ājira: a courtyard, see Geiger, *Mahāvāsīsa*, Ch. XXXV, 3 and transl., p. 246.

Ālambana-bāha: the balustrade, *vedikā*, of a stairway, *sopānā*, *Cullavagga*, V, 11. Cf. *hasti-hasta*. *Ālambana*, *per se*, is the plinth of a railing or balustrade.

Ālekhyā: not in the *Dictionary*. See above under *ābhāsa*. The working drawing, on cloth, for the *Lohapūṣāda* is thus designated in the *Mahāvāsīsa*, Ch. XXVII, 10. *Ālekhyā-sthāna* is a space left in a manuscript for the subsequent insertion of an illustration.

¹ *yal* *lekhyam*.

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Alinda: balcony, gallery. *Cullavagga*, VI, 3, 5, glossed *pamukha* = *pranukha*: *ib.* VI, 14, 1, described as *hasti-nakhakam*, see *hasti-nakha*. In *Mahāvārṣa*, XXV, 3, the rendering of *alinda* as "terrace in front of a house door" (Geiger, *Mahāvārṣa*, p. 246, note 2) seems very questionable.

Amalaka: not in the *Dictionary*, though discussed in the other volumns, p. 179, where *kalaśa*, "vase" (finial) is misrendered "dome."

Not in the *Mānasāra*, and the suggested equivalent *mūrdhni-iṣṭaka* seems a little questionable. I doubt if an example as finial could be cited before the Gupta period, when it can be seen on the reduced edifices of the Sarnath lintel (Sahni, *Catalogue*, pls. XV-XXVI); but these imply an already well-established tradition. The form is already employed architecturally in connection with pilasters represented at Amarāvatī. In *Cullavagga*, VI, 2, 4 a kind of chair is termed *amalaka-vanḍika-piṭhāḥ*, and this is glossed by Buddhaghosa as "having large *amalaka*-formed feet attached to the back." The translation "many feet" of *S. B. E.* XX, 165, cited by Acharya without comment, can hardly be justified, though Buddhaghosa's *bahupāda* suggests it at first sight. Amongst the countless representations of chairs and couches in Indian art of all periods I cannot think of a single example with more than four legs.

Āngana: applied to the enclosure surrounding a stūpa, i. e. the circumambulation-platform between the stūpa and its railing, *Dhammapada Atthakathā*, 290 (Bk. 21, Story 1, Burlingame, H. O. S., vol. 30, p. 175).

Anīdvara: *Arthaśāstra*, II, 3, and III, 8. Meyer renders "sidedoor," Shamasastrī "front door." In III, 8, the latter meaning would seem to be indicated, as only one door is mentioned, and the window above it is referred to. In the early reliefs we see no side doors to ordinary houses, whilst there is generally a window above the single (front) door.

Aratni: add references to *Kauṭilya Arthaśāstra*, II, 20, with a table of measurements practically identical with that of the *Mānasāra*. In *Arthaśāstra* II, 5, the rain gauge (s. v. *kunḍa* below) is to be an *aratni* in width, i. e. 2 spans (*vitasti*) or 24 *āṅgulas*.

Argala: Pali *aggala*, Simhalese *agula*, a bolt. See under *dvāra*, below.

Arghya: not in the *Dictionary*. In *Mahāvārṣa*, XXX, 92, Geiger's rendering of *agghiya* as "arches" is impossible. *Agghiya-panti* may be rows of garlands or awags, a common enough ornament, or more likely rows of vessels of some kind; *phalikagghiya* must be a crystal dish or platter, as it has four corners in which are placed heaps (*rūsiyo*) of gold, gems, or pearls—but more likely we should understand *phalakagghiya* and translate as "wooden offering table" or "altar." In any case "four corners" has no meaning in connection with any sort of known *torāṇa*. *Agghika* of *Mhv.* XXXIV, 73 is more doubtful,

perhaps here equivalent to altars or reredos (Sinh. *wahal-kaḍ*). See also *agghiya*, *agghiya* in P. T. S. Pali Dictionary.

Aryaka-stambha: not in the Dictionary: but see under *āvesaṇin*, below, and Dictionary, p. 669.

Āsandi, a throne, seat: *Atharva Veda*, XV, 3 (see Whitney, in *H. O. S.*, Vol. VIII), where the various parts are named; the description suggests the types still seen at Amaravati.

A detailed nomenclature of seats will be found in *Cullavagga*, VI, 2. Cf. *ib.*, VI, 14, also *Brahmajāla Sutta*, (*Dialogues*, I, p. 11, note 4).

Face S. B. E. XVII, p. 27, it is by no means demonstrable from *Jātaka* I, 108, that *āsandi* means "cushion"; Cowell's "couch" is undoubtedly correct, and this is the sense everywhere else. To suppose a chair or couch placed in a cart presents no difficulty.

Āṭṭha: watch-towers or gate-towers, *Milindapañha*, V, 4. *Gopuraṭṭha*, *Mahāvamsa*, XXV, 30. *Gopuraṭṭhaga*, *Uttarādhyayanasūtram*, IX, 18, Charpentier, pp. 97, 314.

Āvasaraka: *asarakā* (Pāli) (?that which sheds water) overhanging eaves (of a building without veranda, *āndlinda*), *Cullavagga*, VI, 3, 5: glazed as *chadana-pamukham*, "projecting from the roof." *Osaraka*, "under the eaves," i. e. outside the house, *Jātaka*, III, 446. Cf. modern *chajja*.

Āvesaṇin: not in the Dictionary; architect, foreman. Inscription on Sāñcī south torāṇa, "Gift of Ananda, son of Vāsiṣṭhi, āvesaṇin (rendered "foreman of the artisans") of Rāja Sri Sūtakarṇi" (Marshall, *Guide to Sāñcī*, p. 48). *Āyaka* (āryaka)-stambhas dedicated by Siddhārtha son of Nāgacanda, both āvesaṇins (Burgess, *Notes on the Amaravati Stupa*, p. 56); ātesa is stated to mean a workshop, atelier.

Ayas: not in the Dictionary. This word is always used for iron (see *loha*, below). *Mahāvamsa*, XXV, 28, *ayo-kammata-dvāra*, "iron studded gate" (of a city); *ib.*, 30, *ayo-gulām*, "iron halls"; *ib.*, XXIX, 8, *ayo-jāla*, an iron trellis used in the foundations of a stūpa. Reference might have been made to the iron pillars at Delhi and Dhar, and the use of iron in building at Kopārak.

Bodhi-ghara, *mahābodhi-ghara*: temples of the Bodhi-tree, presumably like the many examples illustrated in the early reliefs. No doubt a pre-Buddhist form, preserved in connection with the cult of the Bodhi tree. See *Mahāvamsa*, XXXVI, 55, XXXVII, 31, etc.; in the former place provided with a sand court, *edlikāṭala*; *ib.*, XXXV, 89 *āṅgana*. Also called a *maṇḍapa*, *ib.*, XVIII, 63.

Bodhi-maṇḍa (la): is treated as synonymous with *vajrāsana*, but is really the especial area within which the *vajrāsana* is established; see *Haddu Tsang* as cited by Wattera, II, 114, 115.

Candra (-śāla), etc.: some useful material is contributed towards a solution of the problem of the proper designation of the so-called "caitya-window" (dormer or attic window, gable, etc.), one of the

commonest and most distinctive motifs recognizable in Indian architecture from first to last. "Calya-window" is unsatisfactory, as the form is by no means peculiar to, nor can it have been originally devised expressly for calya-halis; the gable form is derived from that of an ordinary barrel-vaulted house end. *Toraya* is perhaps correct in so far as the window is actually an arch, *vātāyana* in so far as it is a window, but neither is sufficiently specific. The problem is a little complicated by the fact that we have to do both with arched windows actually admitting air to upper chambers, dormers, or attics, with real internal space, and also with similar forms used装饰ively and placed in series on cornices or similarly used in friezes; but the various architectural forms, complete figures, or heads (see also *gandhoreya-mukha* and *gyha*) which appear framed in the niche formed by the window-arch prove that the idea of an opening to internal space is always present. The best established word is Tamil *kāḍu* (Jouveau-Dubreuil, *passim*), but there seems to be no similar word in Sanskrit; *kāḍu* means nest, and it applies both to the window as an ornament, and to actual pavilions (*karṇa-kāḍu*, Jouveau-Dubreuil, *Dravidian Architecture*, fig. 4). The proper term in Sanskrit seems to be *candra-sālā* (see *s.v.* in the *Dictionary*), meaning either a gabled chamber on or above the *kopota* (for which *condra* is given as a synonym), or the gable window itself. In this last case *condra-sālā* should really be an abbreviation of *candra-sālā-vātāyana*, and this seems to be the most explicit designation: "gable-window" is probably the best English phrase, German *dachfenster*.

A number of passages seem to show also that *govākṣa* may be synonymous with *candra-sālā-vātāyana*. Thus in *Raghurāma*, VII, 11, the *govākṣas* are crowded with the faces of beautiful young women looking out, and *ib.* XIX, 7, Agnivarman is visible to his subjects only to the extent of his feet hanging down from the *govākṣa*. The modern vernacular equivalent is of course *jhārokha*.

This many-cusped arch, known to modern Musalman masons as *piyālidār mihrab*, and familiar in Rajput, Mughal, and modern Indian architecture, is a development of the "borse-shos" arch (gable window) which has rightly been regarded as of Indian, pre-Muhammadan invention (Rivolra, *Moslem Architecture*, p. 110 f.); every stage in the evolution can be followed. Cusped arches are found already in Java by the eighth century (Borobudur); there is an excellent example at the Gal Vibārā, Polonnārūva, Ceylon. It would take too much space to treat this interesting subject at length here, but it is worth while to note that Mukherji, *Antiquities of the Lalitpur District*, I, p. 9, gives the Indian terminology; the "parts of the so-called Saracenic (five-foiled) arch, are all Hindu." These names are, for the spring of the arch, *nāga* (cf. *nāga-bandha* in the sense of chamfer-stop); for the foils or cups, *kafora*; and for the top, *cūkka* (? = *cālikā*, *q.v.* in *Dictionary*).

Cankrama: cloister, moak's walk, at first perhaps only paved, later roofed and railed (*Cullavagga*, V, 14, 2, 3). *Caṅkamana-sāla*, "hall in a cloister," *Cullavagga*, V, 14, 2 and *Mahāvagga*, III, 5.

Cetiya-ghara: in *Mahāvārṣa*, XXXI, 29, and 60, 61, *cetiya-ghara* is a structure built over a stūpa, *thūpāṁ tassopari gharam*. Some have seen evidence of such a structure in the still standing tall pillars surrounding the Thūpārāma Dīgoba at Anurādhapura, and this interpretation seems to be plausible, especially as the pillars are provided with tenons above. An actual example of a stūpa with a roof over it, supported by four pillars, can be seen at Gaḍalādeniya, near Kandy, Ceyloa. The old caitya-holle are also, of course, *cetiya-gharas*, and of these there existed also many structural examples.

"Thūpaghra . . . is simply a house over a tope" (Hocart, A. M., *Ceylon Journ. Science*, G., Vol. I, p. 145).

Channavira: some description might have been given of this very common ornament, found from pre-Mauryan times to the present day. See Rao, *Elements of Hindu Iconography*, I, p. xxxi, and *M. F. A. Bulletin*, No. 152, p. 90. The *channavira* passes over both shoulders and both hips, crossing and fastening in the middle of the breast and middle of the back; it is worn by deities and men, male and female, and occurs also in Java.

Citra: art, ornament, sculpture, painting, see above under *abhdasa*. *Citra*, *citra-karma* do not always mean painting. Some places where the word occurs and has been so translated need re-examination; for example, *Cullavagga*, V, 9, 2, *citrāpi mandalāni* does not mean "painted circular linings," but rather "carved bowl-rests." Some references should be given to *citra-sabha*, *citra-sāla* which are of very common occurrence in the sense "painted hall or chamber." The *citta-sabha* of Jacobi, *Ausgewählte Erzählungen*, p. 30, has a high tower (*uttunga sihara*). Description of a *citta-sabha* cited from the *Uttarādhyayana Sūtra*, Meyer, *Hindu Tales*, p. 174. *Cittagāra*, in *Sutta Vibhāga*, II, 298.

Cūlikā: as something at the top must be connected with *cūḍā*. But in *Mēnasāna*, L. 301, (Diot, p. 197), *lambā-hāram api cūlikādibhiḥ*, *cūlikā* must be "bodice," and synonymous with *colaka*.

Daranavamī-sāla: not in the *Dictionary*. A square stone (or rarely bronze) slab or box divided into nine compartments in which are placed symbols connected with water, the whole being laid below the foundations of a temple or below an imago (A. S. I., A. R., 1903-04, p. 98, note). This object is known in Ceylon as a *yantra-gala*, where several examples have been found (Parker, *Ancient Ceylon*, pp. 298, 658; *Mem. Colombo Museum*, Series A, I, p. 25).

Deva-kula: in the *Avadāna-satāka* (Feer, p. 98), used of a temple of Nārāyaṇa. See also A. S. I., A. R., 1911-12, p. 124. *Devakula* of

the Nāga Dadhikarṇa, Mathurā Inscription, Lüders' List, No. 03. Inscription of Lopāśchhikā on Mathurā dyāgapāṭa, see *VI Int. Congr. Orientalists*, III, p. 143.

Dhavala, whitening: applied to a plastered or other surface, *Silparatna*, Ch. 64. *Dhavala-hara*, a "White House," palace, Haribhadra, *Sanatkumāracarita*, 548, 599, 608.

Drupada: a post, *Rg Veda*, 3, 32, 33. The whole passage is very doubtful, but apparently two horses are compared to carved figures of some kind (brackets?) upon a wooden post.

Dvāra: the parts of a door are listed in *Cullavagga*, V, 14, 3, also ib. VI, 2 (not quite correctly translated in *S. B. E.*, XX, p. 106), as follows: *kavāṭa*, the leaves; *piṭṭhasaṅghāṭa*² (= Sanskrit *prasthā-saṅghāṭikā*, "upstanding pair"), the door-posts; *udukhallika*, threshold; *uttarapāsaka*, lintel; *aggalavatṭi*, bolt-post; *kapi-sisaka*, bolt (-handle); *sūcika*, the pin or part of the *kapi-sisaka* which fits into the socket in the bolt-post (cf. *sūci* = cross-har of a *vedikā*); *ghafikā*, key-hole; *dvīñchanacchidda*, string-hole; *dvīñchana-ruju*, string for pulling the leaves to from outside preparatory to locking. Some of these terms occur elsewhere; with reference to a passage in the *Mahāparinibbāna Sutta* where Ananda leans against the *kapi-sisaka* Buddhaghosa is certainly right in glossing *kapi-sisaka* as *aggala*, for the Sinhalese *aggala* is big enough to lean against (see my *Mediaeval Sinhalese Art*, figs. 80-82, for illustrations, ib. p. 133, for the Sinhalese terminology). As in so many other cases the terms are perfectly comprehensible when the objects have been seen as represented in relief, or in use, and when the modern technical terms are known.

As correctly observed in *S. B. E.*, XX, p. 160, *dvāra* is "doorway," "aperture," always with reference to outer doors or gates of any building, or of a city, while *kavāṭa* means the leaves of a door, the door itself.

See also under *grha*, and cf. Robert Knox's description of the palace of Rāja Simha II, "stately Gates, two-leaved . . . with their posts, excellently carved."

Bahi-dudla-sālā = *bahir-dvāra-sālā*, "outer room," "gate chamber," *Mrochakeṭika*, III, 3.

From RV. I, 51, 14 we get *duryo yūpaḥ* for the door posts, from RV. I, 113, 14 *dtā* for the door leaves, and from RV. III. 61. 4 a thong (*syāman*) fastening.

Dvāra-bdhā: door posts, *Mahāvamsa*, XXV, 38: *ayo-dvāra*, *ayo-kammata-dvāra*, ib. XXV, 28, 29, 32.

Dvāra-kotthaka, gate house: *oittakūṭa dvāra-kotthaka*, etc., "a gate-house

² See *S. B. E.* XX, p. 105, note 2.

with a decorated peak, and surrounded by statues of Indra, as though guarded by tigers," *Jātaka*, VI, 125: cf. *Dhammapada Atthakathā*, Bk. 2, story 7.

For *kotthaka* see also *Cullavagga*, V, 14, 4 and VI, 3, 10; *Jātaka*, I, 351 and II, 431; and Meyer, *Arthaśāstra*, p. 75, note 5 (in the sense of "shriae"). *Kotthaka* is usually "gatehouse," but *pīṭhī-kotthaka* is "back-room" in *Dhammapada Atthakathā*, II, 19.

In *Jātaka* I, 227, *dvāra-kotthaka* is, as usual, gate-house, not as interpreted in S. B. E. XVII, 210, 'mansion' (the 'mansion' is *ghara* and it has seven *dvāra-kotthakas*).

Gārika: red chalk. *Cullavagga*, V, 11, 6, *goruka*, red coloring for walls. Medium red color, *Silparatna*, Ch. 64, 117. Brown, *Indian painting under the Mughals*, p. 124 (used in preparing the *lekhant* or pencil). Used as rouge, *Karpāramāñjari*, III, 18, see H. O. S., Vol. 4, note on p. 268. As a pigment, *dhātu-rāga*, *Meghadūta*, 102. *Garuka*, *Cullavagga*, V, 11, 6, VI, 3, 1, and VI, 17, 1. *Mahāvagga*, VII, 11, 2.

Ganda-bheraṇḍa: insufficiently explained by the cross-references to *stambha*. The two-headed eagle, a gigantic bird of prey, is first found in India on a Jaina stūpa base at Sirkap (Marshall, *Guide to Taxila*, p. 74). In mediaeval art two forms appear, analogous to those of *garuḍas*, one with a human body and two bird heads, the other entirely bird. Connected especially with the kings of Vijayanagar, and appearing on their coins, carrying elephants in its claws. Other examples at Śrīśālām (A. S. I., A. R., *Southern Circle*, 1917-18); remarkable panels at Koramangala and Belur, Cññkyā (Mysore A. S. Rep., 1920, and Narasimachar, *Kēśava temple at Belur*, p. 8). A common motif in south Indian jewellery. In Ceylon, see my *Mediaeval Sinhalese art*, p. 85. Cf. also *hatthilinga-sakuna*, *Dhammapada Atthakathā*, I, 164. Further references will appear in the Boston Catalogue of *Mughal Paintings*.

Gandha-kufi: see s. v. *Kufi*.

Gandharva-mukha: designation of the busts or faces framed in the openings of *kūḍa*, *candra-fālā-vātāyana*, or *gavākṣa*, gable windows (Jouveau-Dubreuil, *Dravidian Architecture*, p. 12). Cf. *canda-muka*, s. v. *candra-fālā*.

Gavākṣa: see *Candra*, *Gandharva-mukha*, *Gṛha*, and *Harmya*.

Gṛha, *ghara*, *āgṛā*, *geha*, etc.: there is an excellent description of Vasantasenī's house (*geha*, *bhāvana*) in the *Mucchakatīka*, IV, 30, seq. There are eight courts (*paṭṭīḍha* = *prakōṣṭha*);³ above the outer door (*geha-dvāra*) is an ivory *torāṇa*, supported by *torāṇa-dharāṇa-thambha*, and stretching up its head (*sisā*) towards the sky; at each side are festival jars (*mangala-kalasa*)—"Yes, Vasantasenī's house is a beautiful thing." In the first court are *pāśāḍapanti*, rows of pavillons, having stairways (*sobāṇa*), and crystal windows (*phasi-*

³ Pāli *pakusṭa*, *Cullavagga* VI, 3, 5 is rendered "inner verandahs" in S. B. E., XX, p. 175.

vāda = *sphaṭika-vāṭāyana*) with moon-faces (*muhe-eaude*), or probably "faces on the *candra*," i. e. *gandharva-mukhas* framed in the *candra-fāḍī-vāṭāyana*s or aneating the roll-corulce, for which the description "seeming to look down upon Ujjayini" would be very appropriate. In the third court are courtezans carrying pictures painted in many colors, *vivihavāṇī-dealitta citraphalā* = *vividhavāṇīःavalipita citraphalaka*. In the fourth court, where music and dancing take place, there are water-coolers (*salīga-gāḍī* = *salīgargarayāḥ*) hanging from the ox-eye windows (*gavēkkha* = *gavdikṣa*).

Tisali's palace in the *Kalpa Sūtra*, 32, is a *vāsa-ghara*, dwelling place; it is *sacitta-kamme*, decorated with pictures, and *ullaya-cittiya*, has a canopy of paluted cloth (cf. Pāli *ulloka*).

Milindapañha, II, 1, 13 has "As all the rafters of the roof of a house go up to the apex, slope towards it, are joined together at it."

The famous triumph song of the Buddha (*Nidānakathā*, *Jātaka*, 1, 76 = *Dhammapada*, 154) has "Broke are all thy beams (*phāsuka*), the housetop (*gaha-kūṭa*) shattered": the housebuilder is *gaha-kdraka*.

See also *Bodhighara*, *Cetiya-ghara*, *Cittāgāra*, *Dhavalā*, *Kuṭṭagāra*, *Samudrāgāra*, *Santhāgāra*.

Harmya: *ramyāḥ harmyam*, a beautiful palace, *Vikrama Carita* (Edgerton, text and transl. in *H. O. S.* 26, p. 258, and 27, p. 239) has the following parts: *mūlapratīṣṭhāna*, basement; *bhitti-stambha-dvāra-torāṇa*, walls, pillars, doorways and arches; *ślabhaṇjikā*, statuas; *prākṣepa*, courts; *kapāṭa*, folding doors; *parigha*, door-bars; ⁴ *velabhi*, roofs; *rīṣāṇka*, cornices; *nāga-danta*, pegs; *mattavāraṇa*, turrets; *gavdikṣa*, ox-eye windows; *sopāna*, stairs; *nandyāvartādi-gṛha*, pavilions (!) (see *Dictionary*, s. v.). *Harmikā*, the little square structure on the top of a stūpa (*Dīrghavaddāna*). A cross reference to *rāja-harmya* should be given in the *Dictionary*.

Harmya, dwelling, *Atharva Veda*, XVIII, 4, 55; *RV.* I, 121, 1, I, 168, 4, VII, 56, 16, etc.

Savitāna-harmya, *Raghuvansha*, XIX, 39, "palace with an awning"; or perhaps *vīḍīna* = modern *chajja*.

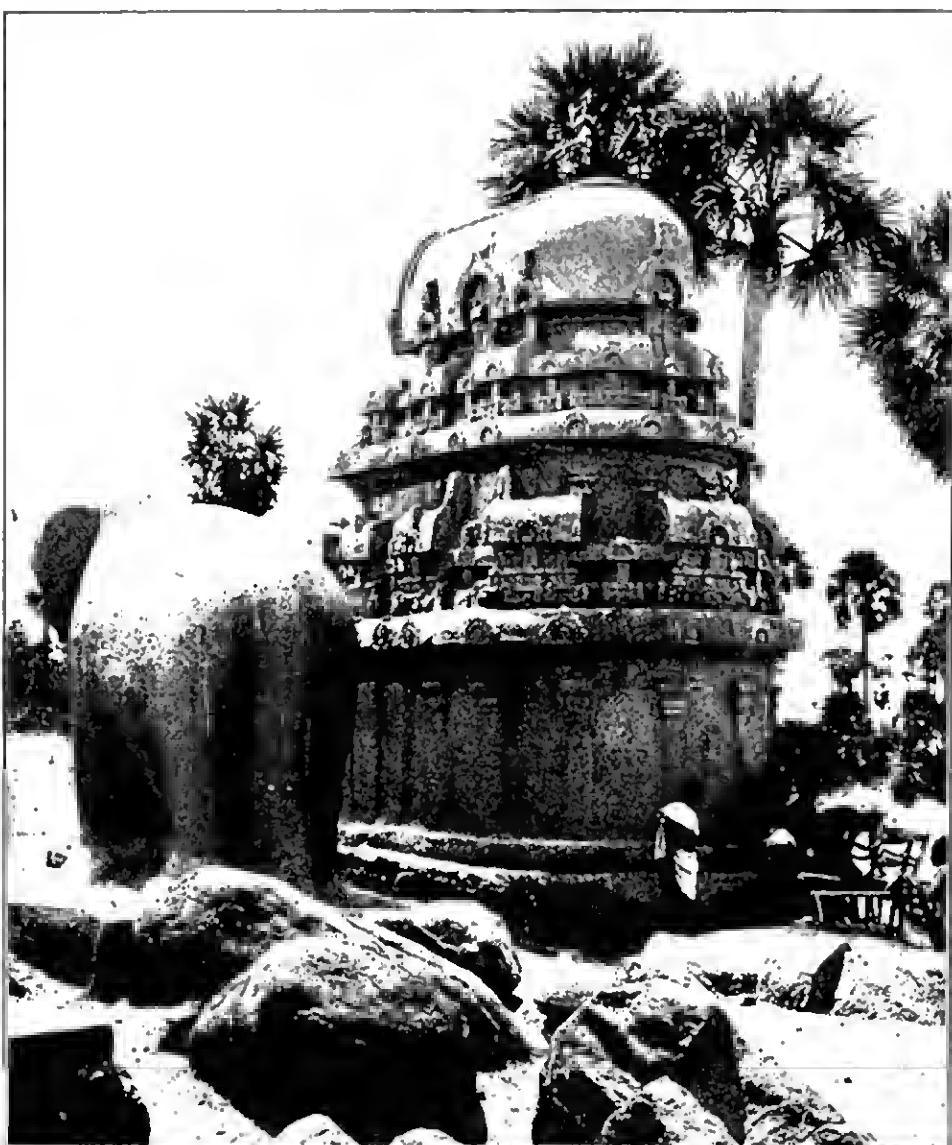
Hasti-hasta, *gaja-hasta*: amongst innumerable examples might be cited one at Nārāyaṇpur, Burgess, A. S. W. I., III, pl. XXXI, 3. Elephant-trunk balustrades in Ceylon are *et-hoṇḍa-vēl*, with the same sense as *hasti-hasta*.

Hasti-nakha: literally "elephant's nail." In *Cullavagga*, VI, 14, 1 a *pāsāda* having an *ālīṇa* (balcony, gallery), qualified as *hathī-nakkakām*, is a permitted monastic residence. According to *Buddhaghosa*'s gloss this means *hathī-kumbha patīḍhitam*, literally "supported on elephants' frontal globes," and so to be rendered "supported by pillars having elephant capitals"; and this is plausible enough,

⁴ But see *Parikhā*, usually, and perhaps here also, a moat.



Entrance of *sela-cetiya-ghara* at Bednagar.
hasti-nakha column on left supporting *drinda*.



RATHA OF NARULA AND SAHADEVA, MĀMALLAPURAM.

Hasti-pyastra construction (cf. back of elephant on left): shows also *padjaras*, and *kapotas* with *kñgas*.

as pillars with elephant capitals, supporting galleries and upper storeys, are highly characteristic of early Indian architecture. It is true that one hesitates to accept *nakha* in any other sense than that of "nail" or "claw." But it is possible to retain the interpretation "elephant capital" without supposing that *nakha* = *kumbha*, for in fact the observer, standing at the foot of such columns, e. g. at Bedāl (see accompanying Plate), and looking upwards, sees nothing of the actual capital, except the under sides and nails of the fore feet of the elephants, which project beyond the edge of the abacus, and this may well have given rise to the term "elephant's nail" as applied to elephant capitals.

On the other hand, *hasti-nakha* occurring in the *Sisupālavāda*, III. 68, *Sanairanīyanta rayāpatanto rathāḥ kṣitih hastinakhaḥ . . . turaṅgaiḥ*, "the swift chariots are slowly brought down from the *hasti-nakha* to earth by the horses," seems to refer to a place or structure on the rampart. Amara's gloss is *pūrvāri myākūṭaḥ* "a *kūṭa* made of earth at the city gate."

The word also occurs in *Kautilya Arthashastra*, p. 53 of Shamasāstry, the Dictionary citing only Shamasāstry's translation *s. v. gṛha-vin-yasa*. Here too, *hasti-nakhas* are connected with the gate and rampart of a fort. Meyer's version, p. 71, given bers with slight modification, is much to be preferred: "For access, an 'Elephant's nail,' level with the opening of the gateway, and a drawbridge (*samkramāḥ samhāryo*); or in case there is no water (for a moat), a causeway made of earth." The *hasti-nakha* is here then presumably a pillar with an elephant capital, standing in the moat, to receive the drawbridge when the latter is let down upon it, or pushed out onto it.⁶ It is not impossible that the term *hasti-nakha*, by an extension of the original and strict meaning, had come to be applied also to the drawbridge itself, and even to the causeway.

The *Sisupālavāda* passage would then imply simply the bringing of the chariots across the drawbridge, or, as understood by Amara, across the causeway of earth which takes its place when there is no water; and thence onto the solid ground.

Cf. *Kesānakha-stūpa*, *s. v. Stūpa*, not explained (Feer, *Avadāna Sataka*, p. 487), but possibly with some reference to a lion capital.

Hasti-prākāra, see *Prākāra*.

Hasti-prāṣṭha, gaja-prāṣṭha: this appropriate name is applied to the buildings with apsidal structures, common in Pallava, Cōla, and later Dravidian work (see accompanying Plate). The reference on p. 159 to *Indian Antiquary* XII should be corrected to XL. On p. 398 *hasti-prāṣṭha* single-storeyed buildings are said to have an "oval steeple"; read instead "apsidal roof." The Professor elsewhere often refers to oval buildings, perhaps meaning apsidal; an oval plan is unknown to Indian architecture.

⁶ Or, if we read *asamhāryo*, then supporting a fixed bridge.

Jantūghara: hot bath room, *Mahāvamsa*, XV, 31, not in the *Dictionary*, though described without citation of the term, *Indian Architecture*, p. 14. *S. B. E.* XIII, p. 157, note 2. *Cullavagga*, V, 14, 3 and VIII, 8, 1; *Mahāvagga*, I, 25, 12-13.

Kaṇḍakara, Pāli *kaṭṭiṅgārā*: plank of a stairway, *sopāna*, *Cullavagga*, V, 21, 2.

Kalā: no reference to the *kalās*; see Veukatasubbiah, A., *The Kalās*, Madras, 1911, and do, with E. Müller, in *J. R. A. S.*, 1914. The lists include such items as *nagaramāṇam*, *vatthunivesam*, *dārukriyā*, etc.

Kalābhara: artist, expert. According to the *Gautama Dharma-sūtra*, VI, 16, the *kalābhara* who is five years older than oneself should be greeted with respect as *bhok* or *bhavan*. Haradatta explains *kalābhara* as one who lives by the *kalās*, i. e. the knowledge of music, painting, leaf-cutting and the like.

Kaṇcuka: *kaṇcukam . . . silāmayam* of *Mahāvamsa*, XXXIII, 25, is evidently rightly translated by Geiger as "a mautling made of stone" (for the *Khaudhathūpa*). This must be the correct designation for the "casing" and "casing slabs" of archaeologists.

Kapota: should be translated "roll-cornice," "larmier." It is the main cornice of a building, derived from the edge of the thatch and the primitive drip-stone cut above cave dwellings to prevent the rain from running in. The synonymous of *kapota*, *candra*, *lupā*, *gopāna*, are significant; see *candra-sāla*. The rendering of *kapota* by "spout" should be avoided. As *pālikā* is abacus, *kapota-pālikā* should be a fillet above the *kapota*. Kern is undoubtedly right in rejecting the meaning "dove-cot," so also in the case of *vijāṅka*. *Mṛcchakatikā*, I, 51 has *kavālapa-vijāṅka*, glossed *kapota-pālikā uparigṛha* and translated in *H. O. S.* "dove-cot"; "dove-ridge" would be better. In reliefs, birds are commonly represented as perched on roofs and mouldings. Utpala's definition of *kapota-pālikā* quoted on p. 111 of the *Dictionary*, amounting to "corbel-ended timbers above the *kapota*" is quite intelligible, as these being seen end on, and coming between the top of the *kapota*, and the bottom of the next member above (as often represented in the early reliefs), are related to the *kapota* precisely as the abacus is related to the rest of the capital below it and the entablature above it.

Kappiya-bhāumi: not in the *Dictionary*. "Outhouse site," *Mahāvagga*, VI, 33, 2 = *S. B. E.*, XVII, p. 119.

Karmāra, Pāli *kammāra*, *Mahāvagga* I, 48 etc., Sinhalese *kammālar*: not in the *Dictionary*. Artisan, smith, etc. *Kammāra-bhāṇḍu*, workers in metals, *Mahāvagga*, I, 48, 1. Highly esteemed by king and people, *Jātaka*, III, 281. The viceroy of Kṛṣṇarāya of Vijayanagar exempted *kammālar* from taxation (*A. S. I.*, *A. R.*, 1908-09, p. 184). Prakrit *kamdra*, see Charpentier, *Uttarādhyayanasūtram*, p. 351. See also my *Indian Craftsman*, and *Mediaeval Sinhalese Art*. *Kammāra-sāla*, smithy.

Karṇa-kila, "the ear rod, fastened with iron (nails), along the sides of a house, and according to which the house is to be built," *Arthashastra*, III, 8. Probably the frame-work of four beams which rests on stone supports, cf. *Mediaeval Sinhalese Art*, Pl. VII, fig. 7, at the level of the man's waist.

Kaṭaka: add, a position of the fingers used in dancing, and seen in the hands of images holding flowers. See Rao, *Elements of Hindu Iconography*, I, p. 16; and *Mirror of Gesture*, p. 31. In this sense, synonymous with *siṅhakarṇa*.

Kaṭi-sūtra: in the sense of girdle, *Cullavagga* V, 2, 1. Technical terms for special forms, ib. V, 29, 2.

Keyūra: armlet, cf. *kūyura* in *Cullavagga*, IV, 2, 1, S. B. E. XX, p. 69.

Khaṇḍa, door (the actual leaf or leaves), *Arthashastra*, III, 8. Meyer makes it a single leaf. Shamasastri renders as equivalent to *kavāṭa*; the choice depends on the meaning assigned to *apidvāra* in the same passage. The door in any case would open inwards, hence Meyer's rendering with reference to the obstruction of space between two houses cannot be quite correct.

Kiñcikkha-pāśa: *Mahāvāsī*, XXXIV, 69, stones apparently used as paving slabs round a stūpa, probably so called as being very smooth (cf. Skt. *kiñjalika*, filaments of a lotus). Childers gives the form *kiñjakha-pāśa*.

Kiñkini-jālaya: network of bells adorning a *vedikā*, *Mahāvāsī*, XXVII, 16. Often seen on Bharhut and other early rail-copings.

Kirti-vaktra: add synonymous *kirti-mukha*, *makara*(i)-*vaktra*, *makara-patra*, *siṅha-mukha*; and Sinhalese *kibhi*, and *kēla-makara* of Dutch archaeologists. The inclusion of the term in the *Mānasāra* shows that the text cannot antedate the Gupta period, for the *makara* face as the crowning element of a *torāna* is not developed before that time at the earliest, the crowning element in earlier types being plain or having the form of a *trisāla* or *śrivatsa*.

Kośa-ghṛta, store room, treasury: has triple underground cellar with many chambers, amongst which is a *devatā-vidhāna*, or chapel, with images of the *Vāstu-devata*, Kubera, etc., *Arthashastra*, II, 5.

Koṣṭhāgṛha: a pair of storehouses are referred to by this name in the Sohgaura plaque inscription, and illustrated on the same plaque (Fleet, in *JRAS*, 1907). They are described as *trigarbha*, having three rooms; Fleet discusses this at length, but it is evident from the illustrations that these rooms are on three storeys, for the storehouses are represented as small three-storeyed pavilions; it is true that the roof of the top storey is "out of the picture," but its supporting pillars can be clearly seen. For another use of *garbha* as designating chambers of a many-storeyed building see under *Prāsāda*, the *Lohapāśāda*. See also *prakoṣṭha*, s. v. *ghṛta*, *dvāra-koṣṭhaka*, and *kundā*.

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Kādu, see s. v. *candra-sālā*.

Kumbha (and *kalāsa*): I cannot see any evidence in the texts cited to justify the translation "cupola." The jar in question has actually always the form of a jar, and is placed above the dome, cupola, spire, *āmalaka*, roof-ridge, or whatever otherwise forms the top of a building. *Kumbha* also = temples of an elephant, see s. v. *hasti-nakha*.

Kunda: a bowl used as a rain-gauge (*varṣamāna*) and placed in front of a granary (*koṣṭhāgūra*) (Kauṭilya, *Arthaśāstra*, II, 5).

Kundika: should be equated with *kamandalu* (not in the *Dictionary*) and explained as the water-pot carried by Brahmanical hermits and Buddhist monks, and provided with two openings, one a funnel at the side for filling, the other at the top of the neck, which is also the handle. Many examples have been found on Indian Buddhist monastic sites. The *kundikā* is carried only by deities of ascetic type especially Brahmins and Siva, and by *rāis*, and should not be confused with the *amṛta-kalāsa*, which has only one opening, and is carried by other deities, especially Indra and Maitreya. A full discussion of the Indian and Chinese forms by the present writer and F. S. Kershaw will appear in *Artibus Asiae*.

Kūṭāgūra: regarding the *kūṭāgūra-sālā* in the *Mahāli Sutta* of the *Dīghanikāya*, *Buddhagbosa*, *Sumanāgala-Villāsini*, p. 309, has the following, which I quote here from a letter received from Mrs. Rhys Davids: "In that wood they established a Saṅgha-park. There, having joined the *kaṇṇikā* (ear-thing, corner of the upper storey) of the pillars (*thambha*, lit. supports) above by the *sāmkhepa* (holding together, fastening together) of the *kūṭāgūra-sālā*, they made the *pāsāda* (terraced or balconied mansion) like to a mansion of devas. With reference to this the Saṅgha-park was known as the *Kūṭāgūra-sālā*." Here, cf. *sāmkhepa* with *kṣepaṇa* in the sense of cornice; but I suspect a reference to brackets connecting pillars and *kaṇṇikā* (the *Dictionary* has *kaṇṇikā* = upper part of the entablature); such brackets are very frequently represented in the early reliefs (Bharhut and Sāñcī). Acharya's Index has no entry under "bracket," but there must have been a word or words in use for so common a structural feature.

Geiger's "balconied windows" for *kūṭāgūra* in *Mahāvārṣa*, Ch. XXVII, is scarcely satisfactory; the *pāsāda* of nine storeys has 100 *kūṭāgūras* on each storey, and little pavilions, *pañjara* or (*candra*)-*sālā* seem to be meant, such as are very common in Pallava architecture; e. g. at Māṇikallapuram, and cf. Jouveau-Dubreuil, *Dravidian Architecture*, fig. 4. The pavilion occupied by the Bodhisattva while in his mother's womb is called a *kūṭāgūra* (*Lalita Vistara*, Ch. VII).

As Pāli *pañṇa-kuṭi* and *pañṇa-sālā* are synonymous designations of hermits' huts, and as these are always single-storeyed cells, it follows that *kūṭa-sālā* need not be a room on the top of a building.

I am inclined to suppose that *kūṭāgūra* generally means simply "a

house with a finial (or finials)." Cf. *kūja*, "finial" (vase) in inscriptions cited in *Dict.*, p. 708. *Gaha-kūja*, *Jātaka*, I, 76. In Ceylon in the eighteenth century the use of such finials was permitted only in the case of devāles, vihāres, resthouses, and the houses of chiefs of Disāwa or higher rank. On this analogy the ultimate meaning of *kūḍagāra* would be "honorable building." In all the early reliefs, palaces, city gates, temples, etc., are duly provided with finials, while village houses lack them.

Kuṣi: not in the Dictionary as a separate word, but cf. *gandha-kuṣi*.

In the *Śālagara* (== *Īśanabali*) ritual of the *Gṛhya Sūtras* (citations in Arbinann, *Rudra*, pp. 104 ff.) *kuṣi* = *āyatana* in the sense of shrines erected for *Īśāna*, *Miśhnī* and *Jaynnta*.

Under *gandhakuṣi* add: see full discussion in *A. S. I., A. R.*, 1908-09, pp. 97-99, with *malagandhakuṣi* and *śailagandhakuṣi* cited from Śāraṇātha inscriptions. Reference should also be made to the Sāñcī relief, north torāṇa, left pillar, front, second panel, showing the Jetavana garden with the *Gandhakuṣi*, *Kosambakuṣi*, and *Karorikuṣi* (Marshall, *Guide to Sāñcī*, p. 58), "the three favorite residences of the Buddha." Further references: Kern, *Manual of Indian Buddhism*, p. 28; Cunningham, *A. S. I., Reports*, XI, pp. 80 ff.; Sahnī and Vogel, *Sāñcī Catalogue*, p. 19, 211; Grünwedel, *Buddhist Art in India*, p. 16.

In the *Maṇimekhala* the small temple of *Campāpati*, patron deity of Puhār, is called a *guṣikā*.

Kappiya-kuṣi, *vacco-kuṣi*, *Cullavagga*, VI, 4, 10.

Lepa: medium, glue, should be distinguished from *sudhā*, plaster. *Vajra-lepa*, "adamantine medium," actually glue, see recipe in the *Śilparatna*, Ch. 64 (my translation in *Sir Ashutosh Mookerjee Memorial Volume*); *Mediaeval Sinhalese Art*, pp. 118, 119. Cf. *Uttara Rāmacarita*, III, 40.

Sudhā-lepya, plaster and paint, Bodhgaya, 6th-7th century inscription, *A. S. I., A. R.*, 1908-09, p. 154.

Likh: additional to the common meanings is that of "turning" (wood, etc.). *S. B. E.*, XX, 78, note 3, is wrong in supposing that turning was unknown to ancient India. Metal, wood, and ivory are all turned at the present-day by means of hand-power devices quite unlike the European lathe (see *Mediaeval Sinhalese Art*, Pl. VI, fig. 4, for ivory, and remarks ib. p. 141); turned stone pillars are highly characteristic of Cālukyan architecture (cf. Rea, *Cālukyan Architecture*, p. 5); and turning is certainly involved in the manufacture of many objects represented in early reliefs. It is significant that the Sinhalese name of the grooved spindle used in turning is *liyana kanda*, and the word *liyana* corresponds to *likhitum* used in *Cullavagga*, V, 8, 1 and V, 9, 2 with reference to turned wooden bowls and bowl-rests. A meaning, "to turn wood, etc." should therefore be given in Pali and Sanskrit dictionaries under *likh*. *S. B. E.*, loc. cit., trying

to escape the meaning "turning" goes so far as to speak of using an *ndze* on metal; a comical idea, if regarded from the standpoint of practical craft.

Another reference to turning will be found in the *Mahāsatipatṭhāna Sutta* (D. N. II, 291 = *Dialogues*, 2, p. 328), "even as a skilful turner (*bhamakura*)"; the simile, ("drawing his string out at length," etc.), implies the actually surviving Sinhalese technique.

Steatite boxes "turned on the lathe," found at Bhiṭṭū and assigned to the eighth century B. C., are described in *A. S. I.*, A. R., 1911-12, pp. 43, 93. For some other references to early turned objects see *Rūpam*, 32, pp. 122-123.

Linga: the following references are of interest in connection with the Deva-Rāja cult in Java and Cambodia: Simpson, in *JRAS*, 1888 cites numerous instances and regular practice of erecting lingams over the burial places of dead sannyāsins. In *A. S. I.*, *Southern Circle*, 1911-12, p. 5 "sannyāsins are not cremated, but buried, linga shrines or brindāvana being raised to mark the spot." *Ib.* 1915-16, p. 34, quoting *S. I. Ep.*, 1914, "In the case of Sannyāsins . . . a raised masonry platform is sometimes set up over the place of burial, on which a tulsi plant is grown, or a stone lingam is set up as though to proclaim to the world that the body hurled below has attained to the sacred form of Siva-linga." E. Carpenter, *Light from the East, being Letters . . . by the Hon. P. Arunachalam*, 1927, p. 63, quoting a letter from the latter regarding the tomb of his guru, "On the site where his body is interred is a lingam to which the worship is offered as to the Master." For the Deva-Rāja cult and its supposed South Indian origin see F. D. K. Bosch, "Het Lingaheiligdom van Dinaja," *Tijdschr. T. L. en Volkenkunde*, LIV, 1924.

Loha: is not iron, but brass or copper, bronze, etc. I do not think that any example of an Indian image made of iron could be cited. The roofing of the Lohapāsāda (*Mahāvāsīsa*, Ch. XXVII) was of copper or bronze. In *Mahāvāsīsa*, XXIX, 11, *loha-patta* is a sheet of copper used in the foundations of a stūpa, but we find *ib.* 12, *ayo-jāla* when an iron trellis is designated. One of the most important architectural references to *loha* is Mahendravarman I's inscription at Mandagapattu (Jonvén-Duhrceil, *Conjeevaram Inscription of Mahendravarman I*, Pondicherry, 1919); here brick, timber, *loha*, and mortar are mentioned as customary building materials. Copper nails are common finds on ancient sites. Other examples of *loha* will be found in the *Dictionary* under *ābhāsa* (!). Cf. also Sinhalese *pas-lo*, an alloy of five metals.

Loṣṭa: the use of *loṣṭa*, probably slag, in preparing a *kittā-ickhant*, should be noted (*Silparatna*, Ch. 64).

Makara-torana: hardly an arch "marked" with a *makara*, but one springing from two *makaras*, and usually crowned by a full-faced *makara* or *makari*.

Mañca: cf. *tanikkita mañca*, stons couch, the nltar of a *yakkhacetiya*, viz. the *bhavana* of the Yakkha Suciloma (*Saṁyutta Nikāya*, X, 3, P. T. S., ed. p. 207), glossed *pādeñna-mañca*, thus synonymous with *śila-paṭṭa*, see my *Yakṣas*, p. 20, note 3 (*veyaḍḍi*).

See also *S. B. E.*, XX, 87, note 2, ib., 168, note 3; and 278, note 3; *Mahāvamsa*, XXVII, 39. Also Geiger, *Mahāvamsa*, translation, p. 204, note 3; the text has *bedhiñca uccisakanā . . . sayanāñ* but this means the *vajrāsana* at the foot of the Bodhi tree (the description is of the Mārṇdhnrṣapn), certainly not the Parinibbāna *mañca*. *Uccīhāmañca*, *Jātaka*, 1, 197, probably the earthen bench outside a hut. *Mañcaṭṭhāna*, space for a couch, *Cullavagga*, VI, 11, 3 (Commentary). Cf. s. v. *Paṭṭa*, *Sthāna* nnd *Vedikā*. Re *S. B. E.*, XX, 278, note 3, I see no reason why the *paṭipādaka* of a *mañca* should not be fixed legs; no ancient representations or modern examples have trestles. The only trestles occur in connection with tables (*hattha-piṭha* of *Sumanāla Vilāsini*, II, 20, text 1, 163, and as seen on early reliefs) nnd modern *dāṇḍāsana* (*Mediaeval Sinhalese Art*, Pl. X, 1). *Piṭha* of the *Cullavagga* may includs both *hattha piṭha* and *pāda*, tables and footstools, hardly "chairs."

The fact that *mañca* and *piṭha* were cleaned by beating does not prove that they were stuffed or upholstered: the actual support may have been made then as now of plaited canes or plaited webbing and anyone who has had experience of such beds will realize that they frequently need airing and beating.

Meru: reference should be given to E. B. Hnwell, *The Himalayas in Indian Art*, and W. Foy, "Indische Kultbauten als Symbole des Götterbergs," *Festschrift Ernst Windisch*, 1914.

Nāga-bandha: is said to be a kind of window, and this would evidently be a perforated window with a design of entwined serpents; there are some in the early Cālukyan temples, and one more modern is illustrated in the Victoria and Albert Museum, *List of Acquisitions*, 1926, fig. 74. Cf. Sinhalese *nāga-dangaya*. But *nāga-bandha* also means both in Ceylon and in southern India, the stop of a chamfer (*Mediaeval Sinhalese Art*, pp. 88, 129, and Jouveau-Dubreuil, *Dravidian Architecture*, pp. 10, 25, 42 and fig. 17); this stop often approximates in shape to a cobra's hood. Cf. *nāga*, s. v. *candra-bālā*.

Nagara: add reference to the detailed description of a city in *Milinda-pañha*, V, 4 (also ib. I, 2 and II, 1, 9); the terms *nagara-vaddhakā*, *daṭṭha-gopura*, *gopur-āḍḍha*, *koppaka*, *devaṭṭhāna* occur. Another good description of a city is cited in Barnett, *Antaṅga Dasā*, p. 1, from the *Aupapāṭika Sūtra*.

Nagara: the meaning "secular" as contrasted with *satya*, "sacred," *vainika*, "lyrical," and *misra*, "mixed," should be cited from the *Vīṇḍudharmottara*, in relation to painting.

Nārdeśa, etc.: the *Dictionary* has only "a road running east." In this

Sthānīga Sūtra^{*} ws haves *vajjo-risaka-naraya-saṅghayāṇe* = *vajra-rābha-nārdeśa-saṅghayāṇe*, meaning "with joints firmly knlt as if by mortise, collar, and pla." Hoernle, *Uvāsagadado* cites Abbayadeva's Sanskrlt commentary, according to which *vajjo* = *kiliko*, *risaka* = *pariveṣṭana potta* or encirclng collar, *nārdeśa* = *ubhoyato-morkaṭa-bandha* or double tenon and mortise joint, and *saṅghayāṇa* = scarf-joint, five kinds being enumerated (for illustration of one see *Mediaeval Sinhalese Art*, fig. 75). One would have thought that *vajja* simply meant "firmly." As regards *pariveṣṭana potta* cf. *Mahārāgga*, V, 11, "Now at that time the Vihāras were bound together by thongs of skin," explained by Buddhaghosa (cited *S. B. E.*, XVII, p. 31) as referring to the tying together of *bhitti-dāṇḍokūḍi* "wall posts, etc." This would seem to have been natural in the case of the wattle and daub walls of the simple *pañca-sālās*; but we do also find early pillars decorated with designs of interlacing ropes or thongs which may be vestigial ornament, and the roof of the shrine of the Turban-salīc at Sūñīci (south gate, lost pillar, inner face) is bound by crossing ligatures which could only be described as *pariveṣṭana patta*. *Atharva Veda*, IX, 3 refers to the parts of a house that are knotted and tied (*naddha*). A house (*śala*) with grass sides has beams (*varṇa*), ties (*nōhano*) and binding (*prāṇḍha*), clamps (*sāndhanha*) and "paladas" and "poriṣvoñjalayo." See also *Upamit*.

Cf. *Mediaeval Sinhalese Art*, p. 114, "Nails were not used in ordinary building, but everything was fastened with rattans and other jungle ropes." This refers to modern village practise.

Noyononmīlāna: p. 88 in *Indian Architecture*: my detailed account of the *netra-mangalya* ceremony should be cited, *Mediaeval Sinhalese Art*, p. 70 f.

Pōḍuka: should be cited also in the sense of sacred footprints, used as a symbol (*Śripāḍa*, *Viśṇupāḍa*, etc.). The *vocca-pōḍuka* of a latrina is also of interest, see *S. B. E.*, XVII, p. 24; good examples have been found on monastery sites in Anurādhapura. Cf. *vocca-kuṭī*. Numerous lavatory sites are illustrated in *Mem. A. S. C.*, Vol. 1.

Pālikā: should be translated "abacus," with references to Tamil *palagai* Jouveau-Dubreuil, *Dravidian Architecture*, pp. 10, 25, 42, and fig. 17. See also *kapoto* (-pālikā).

Pāṁśu: not in the *Dictionary*. Not translated where it occurs as a permissible building material, Buddhaghosa, Comm. on *Cullavogga*, VI, 1, 2, cited *S. B. E.* XIII, 174; the other permitted materials being brick, stone, and wood. *Pāṁśu*, taking all its uses into consideration, should here be rendered "laterlite," a common building material especially in Ceylon. In *Mahāvāsīsa* XXX, 7-9, where *pāṁśu* is used in making bricks, the word is rendered "sand" by Geiger; but "de-

* Benares edition, p. 413a, cited by Hoernle, *Uvāsagadado*, II, Appendix, p. 45.

composed rock," "grit," would be preferable. True sand (*vālikā*) would need only sifting, not crushing and grinding as well. In rendering such words some regard must be had both to practical considerations and to the materials actually available in a given locality. In the tropics the country rock decomposes either into true laterites (Sinhalese "cabook") which is soft when cut, but hardens on exposure; or into a friable sandy grit; both of these have their use in building. Of course, there are many places where *pāneu* means simply earth, dust, refuse, etc., cf. *pāneu-kāla*, rags from a dust-heap. See also *Sarkara*, s. v. in Dict. and under *ābhāsa*.

Pāñcāngula: *hattha-bhitti* of *Cullavagga*, VI, 2, 7 explained by *Buddhaghosa* as *pāñcāngula bhitti*: *pāñcāngulika-pantikā*, *Mahāvāsī*, XXXII, 4; *pāñcāngulitale*, *Aupapātikā Sūtra*, § 2. Possibly colored impressions of the human hand such as one not uncommonly sees on house walls, more likely a five-foliate design such as the palmettes which are so characteristic of early Indian decoration. In all the above passage we have to do with ornament applied to walls or to cloth. Cf. the "three-finger ornament" of Annandale, N., *Plant and animal designs . . . of an Uriya village*, Mem. A. S. B., VIII, 4, fig. 2.

Pañjara, which has, like *candra-śāla-vātāyanā*, the double significance of "attic" and "dormer window" (see *Jouveau-Dubreuil, passim*), occurs in the latter sense in *Jātaka*, III, 370, "looking down from an open window (*vāsasihapañjarena*).". Cf. *Mahāvāsī*, XXVII, 16.

Ratha-pañjara, the body of a carriage, *Jātaka* II, 172, IV, 60.

Parikhd: *Mahāvāsī*, XXV, 48 *timahāparikha*, "having a great triple moat." See also under *Harmya*.

Pañja: no reference to the meaning "frontlet," except that under *vra-pañja* we find "front-plate." In the story of *Udayasā*, Jacohl, *Ausgewählte Erzählungen*, p. 32, a *sovañca pañja* is used to cover the hand on a man's forehead and is contrasted with *mauḍa*, a turban or crown. In Ceylon the gold forehead plate used in investiture is called a *nālā-pañja*, those thus honored being known as *pañja-beṇi*. In *Prabandhacintāmaṇi* we get *pañja-hastin*, state elephant; now elephants do not wear turbans, but do wear jewelled bands round the temples. In *Bṛhatśāmīhī* the section on *pañjas*, which are not worn by those of the highest rank, seems to imply the meaning frontlet. Even *Mahāvāsī*, XXIII, 33, *dukūlapañjena vīhāyitvā* may refer only to the tying on of a fillet, though "turban" seems plausible. No reference to *pañja* in the sense of stone slab, etc. See *Mālavikādg-nimitra*, III, 79 (*sīlāpañjaśāḥ*), and Hoernle, *Uvīśagadāsā*, II, p. 107; *sīhala* (*sīhala*) as synonym, *Mālavikādg-nimitra*, IV, 132. *Loha*, and *sajjhū-pañja*, sheets of copper and silver, *Mahāvāsī*, XXIX, 11-12. *Pāñjika*, stone slab at the foot of the steps, *Mahāvāsī*, XXXI, 61; other terms current in Ceylon for "moonstones" are *handa-kāḍa* (*= candra-khaṇḍa pāñḍa*), and *iri-hauda gala* (*= sūrya*).

candra kala). *Ordhva-paṭṭa*, "stela," should also be noted. *Yoga-paṭṭa* is the braid used by hermits to support the knee when seated on the ground. *Cullavagga*, V, 11, *pañca-paṭṭika*, perhaps a "cupboard with five shelves." See also under *ṇāḍikā*.

Phalaka: commonly a panel for painting on. Add: *appasena*, a board to lean against, when seated on a couch, to protect the walls, *Cullavagga*, VI, 20, 2, and VIII, 1, 4. *Phalakattharayana*, a wooden bed, *Jātaka*, 1, 304. A kind of cloth, *Mahāvagga*, VIII, 28, 2 (see note in *S. B. E.*, XVII, 246), and *Cullavagga*, V, 29, 3. See also s. v. *Arhyā* and *Pralamba*.

Prakāra: an important reference is misplaced under *prāsāda*, *Dictionary*, p. 419. The Besanagar inscription (*Mem. A. S. I.*, No. 4, pp. 128, 129) should be cited (*pūjā-sīla-pākāra*); also Khāravela's inscription at the Hāthigumpha, Udayagiri. The *Mahāvāsīsa*, XXV, 30, has *ucca-pākāra*, rampart; ib. XXXIII, 5, *hatthi-pākāra* in the sense of the basement retaining wall of the platform of a stūpa, with the foreparts of elephants projecting in relief (see also Parker, *Ancient Ceylon*, p. 284). *Cullavagga*, V, 14, 3 and elsewhere has *itīha*, *sīla*, and *dāru-pākāras*. Other references, *Mysore A. S. Reports*, 1913-14, pp. 8, 14 and 1910-20, pp. 2, 3, 5. In *Kauśilya Arthaśāstra*, 53, "rampart" rather than "parapets." *Pākāra* = wall round a park, *Buddhaghosa*, *Suṇāṅgala Vilāsini*, I, p. 41.

Pralamba (-*phalaka*): reference should be made to the illustration of a *pralamba-phalaka*, fig. 94 in my *Mediaeval Sinhalese Art*, and the full explanation of its use there given according to the *Sāriputra*, as the *Bimbamāna* (see *Dictionary*, p. 768) is called in Ceylon.

Pramāṇa: the single meaning given, "measurement of breadth" is insufficient. *Pramāṇa* in the sense of "ideal proportion" appropriate to various types is one of the *gaṇaṅga* of painting, given in Yaśodhara's Commentary on the *Kāmasūtra*. See also Masson-Oursel, "Une connexion dans l'esthétique et la philosophie de l'Inde, La notion de *Pramāṇa*," *Revue des arts asiatiques*, II, 1925 (translated in *Rāpam*, No. 27/28). *Pramāṇa* = land area specified in grants, see Thakur in *Sir Ashutosh Mookerjee Memorial Volume*, 1928, p. 80.

Prāsāda: No reference to the Bharhut relief with inscription *Vijayanta pāsāda*, the only early *prāsāda* identified as such by a contemporary inscription; it is a three-storeyed palace (see *HIA*, fig. 43); we possess so few positive identifications of this kind that none should be omitted. The *Lohapāsāda* described in *Mahāvāsīsa*, Ch. XXVII, was an *uposatha* house of nine storeys each with 100 *kūṭṭagāras* "provided with *vedikās*, and it contained 1000 chambers (*gabbha*). It was covered with plates of copper, and thence came its name" (ib. XXVII, 42); it was of wood, as it was later burnt down (ib. XXXIII), and rebuilt with only five storeys; the stone pillars on which the superstructure was erected are still standing at Anurādhapura. The Sat-

mahal-pāsāda at Pojonnāruva should also be mentioned (HIIA, fig. 287). See also under *grha*.

Punya-sālā, -grha: not in the Dictionary. Both have been thought to refer to temples, but the meaning *dharma-sālā* is far more probable, as pointed out by Hopkins, *Epia Mythology*, p. 71 (ib., 70-73 contains a very valuable discussion of images and temples as referred to in the Epics).

Rāṅga, rāṅga-bhūmi, nātya sālā, prekṣa-grha, etc.: not in the Dictionary. No citation in the Dictionary of the *Nātyaśāstra*, where the construction of theatres is described at some length, with much use of technical architectural terms. A *rāṅga-bhūmi*, stage, set up, *Mahāvāsika*, XXXI, 82. *Rāṅga*, *Jātaka* II, 152.

Rathakāra: "car-maker," carpenter, not in the Dictionary. A Sūdra, but connected with Vedic sacrifices; a *sāntaka* may accept food from one (*Baudhāyana DhS.*, I, 3, 5 = *S. B. E.*, XIV, 159). Much information on the social position of craftsmen and related subjects is given in my *Indian Craftsman*, apparently unknown to the author: see also *karmāra* and *āveśaṇin*, above, and *rāpakāra*, below. *Rathakāra* in inscription of *Virūpākṣa* I, *A. S. I.*, *A. R.*, *Southern Circle, Epigraphy*, 1915, p. 108.

Rāpakāra: sculptor, not in the Dictionary. But the *śilpin* Rāmadeva, son of the *rāpakāra* Suhaka, inscription at Dhar, *A. S. I.*, *A. R.*, 1903-04, p. 240, is cited under Rāmadeva. Reference should be given to Śivamitra, a *śela-rāpakāra* of Mathurā, mediaeval inscription at Śrīvasti, *A. S. I.*, *A. R.*, 1908-09, p. 133. For Buddha-rakkhita, a *rāpakāra*, see Cunningham, *Bharhut*, inscription No. 42.

Sabha: the Bharhut relief with inscription *Sudhamma Deva-sabha*, a pillared circular shrine with cornice and dome is not cited (HIIA, fig. 43). See also *Sahyutta Nikāya*, XI, 3, 5 = *Kindred Sayings*, I, p. 307, and *Dīgha Nikāya*, II, 207-209.

In *Jātaka* VI, 127, the Sudhamma-sabha of Indra has octagonal columns (*aṭṭhamasā sukata thambha*). The description of the heavenly sabhas in *Mbh.* II, 6-11, is altogether vague.

Sahasra-liṅga: not a "group" of a thousand phalli, but one liṅgam with a thousand facets, representing a thousand liṅgas. A good example at Śrīsailam, *A. S. I.*, *Southern Circle*, 1917-18, Pl. V.

Samudrāgāra: a summer house by a lake, *Mālavikagnimitra*, Act IV. *Samuddavīhāra*, a monastery on a river-bank, *Mahāvāsika*, XXXIV, 90. *Samuddapāṇṇa-sālāya*, *ib.* XIX, 26, a hall built on the sea-shore. Cf. the pavilions on the bund at Ajmer, and the island palaces at Udaipur.

Santhāgāra: "mote-hall," with a central pillar (*majjhima-ittambha*), *Dīgha Nikāya*, III, 209 = *S. B. B.*, IV, 202.

Silpa: in the *Atharva Veda*, a "work of art" (Bloomfield, *Atharva Veda*, p. 70).

Silpa-śāstra: Hsien Tsang's reference to five *vidyās*, of which the *Silpa-*
sthāna-vidyā is one, is important as proving the existence of technical
 works on *śilpa* in his day (Beal, Records, I, p. 78). The much earlier
Sulva Sūtras are effectively *Śilpa-Śāstras*, though not actually so
 designated.

Sivikā-garbhā, *sivikā-gabbha*: an inner room shaped like a palankeen,
Cullavagga, VI, 3, 3. Glossed by Buddhaghosa as *caturassa*, four-
 sided. What may be meant may be gathered from the elaborate
sivikās represented in Amarāvatī reliefs, where their design is quite
 architectural (Gibson, *Buddhist stupas of Amaravati and Jaggayya-*
petā, Pl. XI, 2 and p. 55, and Pl. XI, 1).

Sopāna: see a. v. *ālambā-bhā*, *harmya*, *hasti-hasta*, *kaṭaikkara*, *patta*.

Sreni: that painters were organised in guilds is apparent from Jacobi,
Ausgewählte Erzählungen in Māhārāṣṭrā, p. 49, where the painter
Cittāñgaya, "working in the king's *citta-sabha*" belongs to a *sreni* of
cittagaras. It is of interest that his daughter *Kanyamalījñī* also
 paints. See also list of 18 guilds in *Jātaka*, VI, 22: other references
 a. v. *sreni* in P. T. S. Pali Dictionary.

Srivatsa (*sirivaccha*): also characteristic for Mahāvīra. The cruciform
 flower is the later form only; in the Kuṣāṇa period it is what numis-
 matists have called a nāga or a lieid symbol (good illustration on a
 coin, Rapson, *Coins of the Andhra Dynasty*, pl. VIII, 207, reverse,
 and on Mahāvīra's breast, Smith, *Jaina Stupa of Mathurā*, pl. XCI,
 right); the development of the early form into the later can be traced.
 Also cf. Hopkins, *Epic Mythology*, p. 205.

Sthāna: the sense of pose, stance, is not given. Five *sthānas* (frontal,
 three-quarter, profile, etc.) are defined in the *Śilparatna*, Ch. 64, and
 thirteen in the *Viṣṇudharmottara* (see translation by S. Kramrisch,
 2d edition, 1928). *Mahāsthāna*, sacred area, inscription of Mahipāla.
 Sadhvat 1083, A. S. I., A. R., 1906-07, p. 99: *Nāgendrasya . . .*
Dedhikarnṇasya sthāne silapatto, Mathura inscription Lüders' List
 85, Ep. Ind. I, 390, no. 18, cited Mem. A. S. I., Vol. 5.

Stūpa: no description of the component parts is given: they are *sopāna*,
ardha, *medhi* or *garbha*, *harmikā*, *yaṣṭi*, *chattrāvalī*, *varaṇa-sthāla* or
amṛta-kalaśa. There should be mention of the synonym *dāgaba* (*dhātu-*
garbha), and of *eduka* and *jaluka* by which names Buddhist reliquary
 shrines are referred to in the *Mahādhāraṭa* (3, 190, 05 and 07). The
 detailed description of a stūpa in the *Divyāvadāna*, p. 244, sum-
 marised by Foucher' *L'Art gréco-bouddhique . . .* I, p. 96, and the
 detailed account of the building of a stūpa in *Mahāvāṃsa*, Chs.
 XXVIII, seq. should be referred to; also the full account in Parker,
Ancient Ceylon. The latter quotes a Sanskrit-Pali text defining
 the shapes and proportions of *dāgabas*, from the *Wāḍḍyānta-pota*
 (or *Vājayanataya*) a *śilpa-śāstra* well known in Ceylon, but not men-
 tioned in the Dictionary. The *Avadāna Sātaka* mentions three kinds
 of stūpas—*gandhastūpa*, *kesanakha-stūpa*, and *stūpa*—the latter being

the regular *dhātu-stūpa* for funerary relics. The *Dhammapada* *Attokathā*, XXI, 1-290, *H. O. S.*, Vol. 30, p. 175, has a *thūpa* built over the body of a Brahman's son who had become a Buddhist monk. Were *stūpas* ever erected by others than Buddhists or Jainas? In Kāśyapa's Conversion at Sāuci (east gate, left pillar, inaar face, third paacel) a railed *stūpa* forms part of the *Jatila* *ārūpa*: so also at Amarāvatī, Fergusson, *Trea and Serpent Warship*, Pl. LXXXVI.

Stūpikā: *occiyasa kīrtom viya kanakamayañ thūpikāñ ca yojcfv* (*Attanaguluvanha*, Alwis, IX, 7). Dome of a palace, *Mahāvāha*, XXXI, 13, with above reference (Geiger).

Cf. *silāthūpaka*, *Mahāvāha*, XXXIII, 24, "a little stone *stūpa*," probably actually the *stūpa* of *H. I. I. A.*, fig. 292. But the usual meaning of *stūpikā* (as given in *Dict.*), is "dome." I do not think this terminology implies a derivation of the dome from the *stūpa*, but only a resemblance of form. Granting the recognized resemblance, however, the point is of interest in connection with the origin of the bulbous dome, for many early *stūpas* are markedly bulbous. Some Paliava temples have bulbous domes, and even the dome of *H. I. I. A.* fig., ca. 200 A. D. almost exactly follows the shape of the slightly swelling *onda* of the *stūpa* of *ib.* fig. 146.

Sulka-sālā: a toilet-house, *Divyāvadāna*, 275, seq. *Sulka-sthāna*, *Artha-sāstra*, II, 3.

Tāla-māna: mere reference should be made to many published accounts, e. g. Rao, *Tālamāna*, my *Mediaeval Sinhalese Art*, Ganguly, *Orissa and her Remains*. On pp. 230, 233, what part of the body is the "hiccough?"

Tīrṇacchadana, Pali *tīpa-cchadana*: "thatch," *Cullavagga*, *passim*. In *Atharva Veda*, IX, 10, 11, the thatch is called a thousand-eyed net stretched out like an *opasa* on the parting (*viguvant*, here = ridge-pole). See also *Upamit*.

Tulā: the meaning "well-sweep" should be added (*Cullavagga*, V, 16, 2); two other means of raising water are mentioned, *loc. cit.*, viz. *karaka-jañka* literally "pot-edge" or "pot-ridge," probably the "Persian" water-wheel, and *cakkavatīka*, wheel and axle. All three are still in common use.

But is *karaka-jañka* really distinct from *kara-kaṭaka*, a hand wheel for drawing water?

Upamit, etc.: RV. I, 59, 4 and IV, 5, 1; AV, IX, 3, 1. See Bloomfield, *Atharva Vedo*, II, 185, 195; Whitney, *Atharva Veda*, 525; Zimmer, *Altindisches Leben*, Ch. V; etc.

The whole terminology of the *sālā* is difficult, but the rendering of *upamit* as (sloping) buttress (by Bloomfield and by Zimmer) is extremely implausible and almost certainly an error. I suggest *upamit* = plinth or pillar base; such bases were probably, as at the present day, of stone, as a protection against white ants.⁷ Then *pratimit*

⁷ Cf. *Mediaeval Sinhalese Art*, p. 129, fig. 72, and pl. VII, fig. 7, "Wooden pillars often rest on a stone base as a protection against white ants."

(= *sthūpa*) are the main upright wooden pillars (corner pillars) set up on the *upamit*; *parimit*, the horizontal beams of the framework, connecting with the *pralimit* by means of mortices or dovetails (*sahdāmīsa*); * *pakṣa*, perhaps the wall plates; *vamśa*, the bamboo rafters. The roof (*chanda*) is thatched with straw or reeds (*trna*): the cut ends of the reeds may have given rise to the designation "thousand eyed" of AV. IX, 3, 8. *Palada* (bundles of grass or reeds, according to Zimner) and *parīvaraṇjalaya* I cannot explain.

The *sikyadī*, ropes "tied within for enjoyment," may have served as partitions, to be hung with cloths so as to divide the interior into separate rooms; the Sinhalese *piliyula* is used in this way, and I remember to have seen an ornamental example carried by a party of travellers for use in a public resthouse to secure privacy.

Vajrāsana: "diamond throne," though well-established, not a good rendering; "adamantine throne" would be better. See E. Senart, "Vajrapāṇi dans les sculptures du Gandhara," *Congr. Int. Orientalistes, Alger*, 1905, Vol. I, p. 129. *Bodhi-pallāmīka* in the *Niddānakathā*, *Jātaka*, I, 75, is an interesting synonym. The Buddha's *āsana* at the Gal Vihārā, Polonnāruve, Ceylon, is decorated with actual *vajras*, but this probably represents a late interpretation of the term; I know no other instance. See also *Bodhi-māṇḍa* and *Māṇca*.

Vāna-lāhi, rafters or reepers? As a protection against the rain, the *vānalāhi* (of a house, *gṛha*) are to be covered over with straw (*kāta*, bero thatch rather than straw mats), *Arthāśāstra*, III, 8. Cf. *Yaṭhīvana*.

Vapra: in *Kauśilya Arthāśāstra*, 51, 52, *vaprasayapari prakram*; "glacis" rather than "rampart," which latter rises above the *vapra*.

Vardhaki: I cannot think of any case where the *vardhaki*, Pali *vaddhaki*, is specifically a painter. The usual meaning is architect, artisan. Cf. *nagara-vaddhaki*, the architect of a city, *Milindapañha*, II, 1, 9. In *Mahāratnaśa*, XXX, 5, the 500 *īśhakā-vaddhaki* are certainly not all "master-builders" as rendered by Geiger, but rather brickmakers or bricklayers; even the *vaddhaki* who is their spokesman, ib., 12 is hardly more than *primus inter pares*. *Vaddhat*, architect, one of the 14 'jewels' of a Cakravartin, *Uttarādhyayanaśāstra* commentary, cited Charpentier, p. 321. Numerous designations of craftsmen will be found in the *Sātapatha Brāhmaṇa* list of symbolic victims of the *Purusamedha* (S. B. E., XLIV, 413-417).

* *Mediaeval Sinhalese Art*, loc. cit. (p. 129), "where the whole building rests on low stone pillars, the wood pillars are mortised into huge beams forming the framework of the floor."

Vedic *parimit* and Sanskrit *karpa-kila* seem to designate such foundation beams; Vedic *pakṣa* and Sanskrit *karpikā* the wall plates forming the framework of the roof. Where we have to do with a colonnade rather than a wall, *karpikā* is of course 'entablature.'

Vardhamāna: add "powder-box," one of the *astamangala* of the Jains. Early illustrations, Smith, *Jain Stupa of Mathura*, pl. VII; later, Hüttemann, "Minaturen zum Jinacarita," *Baessler Archiv.*, 1913, fig. 1. *Vardhamāna-gha*, *Uttarādhyayanaśāstra*, IX, 24.

Vasra-nip(y)a: is not "a jar-shaped ornament of a column," but the knotted band or ribbon which so often encircles the *pūrṇa-kumbha* which forms the base or capital of a column, and the Mānasāra text cited (*kumbha-madhye*, etc.) is perfectly explicit on this point, "and in the middle of the pot (i. o. round the belly) let there be added a colored band of cloth as a protection." This use of a string or band as protecting charm or "fence" is of course well known in many other connections.

Vāstu, add the meaning "real estate" (Meyer, "Liegenschaft"): "Vāstu includes houses, fields, groves, bridges (or *ghāṭas*, *setu-bandha*), ponds, and reservoirs," *Arthaśāstra*, III, 8.

Vātīyana: the Dictionary citations show that in the *śilpa-śāstras* types of *vātīyana* are differentiated by preceding qualifying adjectives denoting the pattern of the grille or openwork screen. In the light of this fact, and of the varieties of windows represented in reliefs and the types still in common use, the three designations in *Cullavagga*, VI, 2, 2 are perfectly intelligible: *vedikā vātāpāna* is a window with a rail-pattern grille; *jāla-vātāpāna* is one with a trellis grille, lattice; *salāka vātāpāna*, one provided with upright turned pillars or bars (not "slips of wood"). Buddhagosa glosses *salāka* as *thambaka*. For turning, *s. v. likh*.

Vedī, vedikā, etc.: *veiyā* of Jacobi, *Ausgewählte Erzählungen*, p. 49, must be marriage pavilion rather than balcony, as marriages always take place in special temporary pavilions erected *ad hoc*.

In the common sense of railing, the *Mahāsudassana Sutta*, I, 60, gives the component parts, viz. *stambha* (uprights), *sāci* (cross-bar), *upṇīya* (coping), and these words often occur in Prakrit forms in the early inscriptions: also *pliuth*, *alambana*. In *Mahāvāsī*, XXXV, 2, *muddhavedī* is the railing of the *harmikā*, *pādavedī* the railing on the basement level of a *stūpa*; *ib.* XXXVI, 52 and 103 has *pāśāna* and *śila-vedī*, "stone railing" (round the Bodhi-tree) rather than "stone terrace" as interpreted by Geiger, p. 296.

Mahāvāsī, XXXII, 4, *vedikā* represented in a painting. *Alambabha*, the *vedikā* of a *sopāna*, *Cullavagga*, V, 11, 6 etc. See also *kikkini-jālāya*. Cross references to *p(r)ākdra* and *bhitti*, should be given; cf. *bhitti-vedikā* of *Mālavikāgnimitra*, V, 1, where it is built round an *āsoka* tree.

The very curious use of *vedikā* to mean a mode of sitting (*deana*) is noted by Charpentier, *Uttarādhyayanaśāstram*, p. 371.

Vidyut-latā: Pali, *vijjul-latā*, *Mahāvānsa*, XXX, 96, the Commentary having *megha-latā nāma vijju-kumāriyo*, "the cloud-vines called lightning maidens." Real lightnings are evidently intended, not mere zigzag lines as rendered by Geiger. Representations of clouds and lightning are very characteristic of Indian painting; certain rooms in the old palace at Bikanir, entirely decorated with a frieze of clouds, lightning, and falling rain may be cited (see my *Rajput Painting*, Pl. VII). The form *vijju-kumāriyo* is interesting, as the lightning is similarly always feminine in relation to clouds in rhetoric, and cf. *Yajur Veda*, IV, 1, 11, *Jātaka*, V, 407 and *Mroohakatika*, V, 46.

Vimāna: reference should be made to the long and excellent discussion of this word in the P. T. S. *Pali Dictionary*.

Vīṇā: as this word and also *karuṇa-vīṇā* are separately rendered "flute," there can hardly be a misprint; the proper word is, of course, lute. Two forms are found in the early reliefs, one like a harp, the other like a Japanese *bōzu*. So far as I know the southern *vīṇā* with two large gourds as sounding boxes can be seen first in the paintings at Ellura. The parts of a *vīṇā* are named in *Milindapañha*, II, 3, 5; see also P. T. S. *Pali Dictionary* s. v.

Historical Architects, add:

Ananda, son of Vāsiṣṭhi, as above, s. v. *dveṣapin*.

Balaka, pupil of Kanha, maker of a *śālika* at Kondasse, and one of the earliest craftsmen known to us by name (Burges, *Report on the Buddhist Cave Temples*, 1883, p. 9).

Bammoja, western Cālukya inscription. Bammoja was "a clever architect of the Kali age; the master of the 64 arts and sciences; clever builder of the 64 varieties of mansions, and the inventor (?) of the four types of buildings called Nāgara, Kāliṅga, Drāviḍa, and Vesara" (A. S. I., A. R., 1914-15, Pt. I, p. 29). The description of Kāliṅga as a style is cited in the *Dictionary* from the *Mānasāra*.

Dipa, builder of the Caumukh temple at Rānpur; belonged to the Sompura class of Brahman architects, whose ancestor is said to have built the temple of Somnāth-Mahādeva at Prabhās-Paṭṭan. The Sompuras, not mentioned in the *Dictionary*, are said to have built many temples in Gujarat, to have been at Āhu, and to possess MSS. on architecture. One, Nannā-khummā, was in charge of repairs at Rānpur; another, Keval-Rām constructed temples at Ahor (D. R. Bhendarkār, "Chaumukh Temple at Rānpur," A. S. I., A. R., 1907-08).

Jaita, etc.: an inscription on the window of the second storey of Rāja Kumbha's *kīrtistambha* at Chitor (A. D. 1440-49) mentions the architect of the building, and his two sons Napa and Puṣja. On the fifth storey are effigies of the two last, and a third son, Pama.

Another inscription at Chitor mentions the fourth son, Balräja. See *A. S. I., A. R.*, 1920-21, p. 34.

Sidatha (Siddhärtha), son of Nügacana, as above, *s. v. āvesapin*.

Sivamitra, as above, *s. v. rūpakāra*.

Mallikärjuna Chinnappa, builder of the Virabhadra temple at Chikkaballapur, Mysore, died 1860; there is a tomb (*gaddige*) in a building to right of the temple.

Treatises on architecture:

Bimbamāna: known in Ceylon as *Sāriputra*. Add reference to translated passages in my *Mediaeval Sinhalese Art*.





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